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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,871	02/27/2002	Lawrence J. Almaleh	1609	4718

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EXAMINER
NGUYEN, THUAN T

ART UNIT	PAPER NUMBER
2685	

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-57* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-57* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>2/27/02</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____ .

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____ .

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-57 have been considered but are

moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> *(a) A patent may not be obtained though the invention is not identically*
> *disclosed or described as set forth in section 102 of this title, if the*
> *differences between the subject matter sought to be patented and the prior*
> *art are such that the subject matter as a whole would have been obvious at*
> *the time the invention was made to a person having ordinary skill in the*
> *art to which said subject matter pertains. Patentability shall not be*
> *negatived by the manner in which the invention was made.*

3. Claims 1-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Volt

et al. (U.S. Patent No. 5,751,707) in view of Hugenberg et al. (US Patent No. 5,924,039).

Regarding claim 1, Volt discloses "a method of designing a first antenna system

in a communication system, the method comprising: retrieving demographic information

of customers from a first database system; determining communication traffic based on

the demographic information; retrieving parameters of a second antenna system from a

second database system; determining an antenna system configuration for the first

antenna system based on the communication traffic and the parameters of the second

antenna system; and determining a performance of the first antenna system in response to

determining the antenna system configuration for the first antenna system", i.e., Volt

discloses a MMDS communication system of more than two antenna systems (Fig. 4, and

col. 23/lines 5-21) that based on the demographic information or customer profile

information collected from each antenna system (col. 10/line 62 to col. 11/line 24), the

headend or control database system can configure the antenna configuration for the

receiving stations or subscribers (Fig. 7) based on the traffic communication or

population/density of the users/viewers/subscribers within the service areas (as shown in

Figs. 5A & 5B, and col. 23/lines 5-67; and col. 11/line 15 to col. 12/line 60 as the

headend system serves its normal network broadband functions and the wireless

broadband network and it can determine the traffic flows based on the customer's need

and services).

Volt does not show clearly the designing of antennas based on the demographic

information and the configuration of the first antenna system is based on the

communication traffic and the parameters of the second antenna system as argued by

applicants; however, Hugenberg teaches the same technique as in the prior art, the

designing of the antennas is corresponding to the population and the demographic

information of the customers (col. 4/lines 42-64), and clearly, as shown in Fig. 5, for

instance, the configuration of the first antenna system (network cell site) would be

depended on the communication traffic and parameters of the second antenna system

(users/clients) due to the demographic information of less or more subscribed users and

other factors as communication traffic, multiple access techniques and speeds etc (refer to

col. 7/lines 10-16). Therefore, it would have been obvious to one of ordinary skill in the

art at the time the invention was made to modify Volt's system with disclosed technique

of Hugenberg in order to obtain an enhanced communication system that dynamically

providing services to the users wherein the designing of the antennas is corresponding to

the population and the demographic information of the customers and the configuration

of the first antenna system is based on the communication traffic and the parameters of the second antenna system.

As for claim 2, in view of claim 1, Volt discloses "wherein the steps of determining the antenna system configuration for the first antenna system and determining the performance of the first antenna system are repeated until the first antenna system is optimized based on a maximum number of users, a geographic location, and government restrictions" (Figs. 2 & 3 for a routine loop to check until the antenna configuration is optimized based on geographic location and government restriction by Federal Communications Commission FCC licenses, see col. 22/line 55 to col. 23/line 38 based on regulations, and col. 24/lines 1-17 for FCC).

As for claim 3, in view of claim 1, Volt discloses further "comprising generating an antenna output based on the antenna system configuration and the performance of the first antenna system" (Figs. 5A & 5B, and col. 23/lines 20-50 for overlapping areas based on the antenna coverage for primary areas and secondary areas due to the antenna power or performance).

Regarding claims 4-8, 23-27, and 42-46, in view of claim 1, Volt does not further mention the steps of "wherein the demographic information comprises age and income of the customers"; "wherein the demographic information comprises an indication of whether the customer is residential or business"; "wherein the parameters comprise a location of the second antenna system"; "wherein the parameters comprise property rights of the second antenna system"; and "wherein the parameters comprise frequency and power of the second antenna system"; however, in a same environment of broadcasting services to the users in an MMDS system, Hugenberg teaches that the

content delivery to the users based on a plurality of factors including demographic

information, age and income to different groups of peoples, RF hardward, topography,

licenses (for property rights) etc. whether residential or commercial groups of people for

appropriately delivering of services (Hugenberg, col. 3/line 40 to col. 4/line 64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify Volt's system with disclosed technique of Hugenberg in

order to obtain an enhanced communication system that dynamically providing services

to the users based on plenty of factors as addressed.

As for claim 9, in further view of claim 1, Volt inherently suggests "wherein

determining the antenna system configuration for the first antenna system comprises:

retrieving access road information from a third database system; retrieving topography

information from a fourth database system; retrieving land usage information from a fifth

database system; and retrieving image information from a sixth database system", i.e.,

Fig. 6A of Volt shows broadcast headend with interactive headend comprises database

33, and the headend can comprise of more than one database for other information if

needed or desired, for instance, a fifth database or a tenth database for any piece of

information related to subscriber or system performance.

As for claims 10 and 11, in further view of claim 1, Volt discloses "wherein the

first antenna system comprises a fixed wireless communication system" and "wherein the

first antenna system comprises a Multichannel Multipoint Distribution System (MMDS)"

(Figs. 4 & 7, and col. 23/lines 4-21 for MMDS).

As for claim 12, Volt discloses "wherein the second antenna system comprises a

cellular antenna system" (Figs. 4 & 5A & 7).

As for claims 13-15, these claims for "wherein determining the antenna system configuration further comprises determining a location of the first antenna system"; "comprising generating a submission for government licenses for location, frequency, and power"; and "wherein determining the communication traffic further comprises calculating a weighted average throughput" are taught by Volt (col. 34/line 14 to col. 32/line 40 for antenna locations related to FCC license and the average output at receiving device).

As for claims 16-19, 34-38, and 53-57, Hugenberg further teaches "wherein determining the communication traffic further comprises determining traffic weighting patterns based on penetration rates and data throughputs"; "wherein determining the performance of the first antenna system further comprising executing a radio frequency analysis based on the first antenna system"; "wherein determining the performance of the first antenna system further comprising executing a traffic simulation based on the first antenna system"; and "wherein determining the performance of the first antenna system further comprising executing an interference analysis based on the first antenna system" (see claims 4-8 above, more on col. 3/line 32 to col. 4/line 64 for the operator can determine the resources and allocates the traffic weighting patterns based on rates and data throughputs together with RF analysis and network interference evaluation for the antenna systems).

Regarding claims 20-22 and 28-33, these claims for "a design system for designing a first antenna system, the design system comprising: a processor system configured to retrieve demographic information of customers from a first database system, determine communication traffic based on the demographic information, retrieve

parameters of a second antenna system from a second database system, determine an antenna system configuration for the first antenna system based on the communication traffic and the parameters of the second antenna system, and determine a performance of the first antenna system in response to determining the antenna system configuration for the first antenna system; and an interface connected to the processor and configured to transfer the demographic information from the first database system to the processor and transfer the parameters of the second antenna system from the second database system" are rejected for the reasons given in the scope of claims 1-3, and 9-15 in view of the combination of Volt and Hugenberg as discussed above.

Regarding claims 39-41 and 47-52, these claims for a software product for designing a first antenna system in a communication system as addressed are rejected for the reasons given in the scope of claims 1-3, and 9-15 in view of Volt and Hugenberg as discussed above.

Conclusion

4.   **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: .

(703) 872-9306, (for Technology Center 2600 only)

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Thuan Nguyen whose telephone number is (571) 272-7895. The examiner can normally be reached on Monday-Friday from 9:30 AM to 7:00 PM, with alternate Fridays off.

Information regarding the status of an application may be obtained from the

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have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

TONY T. NGUYEN
PATENT EXAMINER

Tony T. Nguyen
Art Unit 2685
June 9, 2005